THE MONETARY VALUE OF MILITARY OFFICER COMPENSATION

Richard Doyle Greenamyer

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OF
MILITARY OFFICER COMPENSATION

by

Richard Doyle Greenamyer

September 1974

Thesis Advisor J. W. Creighton

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The Monetary Value of Military Officer Compensation

by

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ABSTRACT

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I. INTRODUCTION

A. IMPORTANCE TO FINANCIAL PLANNING

This paper is concerned with the monetary value of in-service pay and benefits combined with the present value of future retirement remuneration.

The general subject of compensation is of importance to any person in any profession who is responsible for his family's personal financial planning. However, in the military service where compensation is provided in many different, and at times complex and confusing forms, it becomes a necessity to have an understanding of their extent and value. Only after such an understanding is reached can intelligent decisions be made concerning insurance, savings, investments, and other personal financial matters.

B. SOURCES OF INFORMATION

The most comprehensive previous investigation of military compensation is the Report of the First Quadrennial Review of Military Compensation: Modernizing Military Pay, more commonly called the "Hubbell Study" [Ref. 1]. Among other things, the study pointed to the fact that military pay is unduly complex and confusing (Finding 12a), and recommended that the different compensation elements be incorporated into a schedule of full salaries based only on pay grade and years of service (Recommendation 8). However, in this study an item

of compensation was defined as one that both (a) costs the government money and (b) is of some value to the recipient. Thus, the basis of assigning a monetary value to a benefit was essentially what it cost the government to provide that benefit (i.e., if the commissary system became self-supporting, its value as a form of compensation would be zero, even if it constituted a savings for the member).

A similar method of valuation of compensation is provided in the "Standard Rates for Costing Military Personal Services" [Ref. 2]. Here an average salary for each pay grade is computed by dividing the total cost to the government to provide pay and benefits by the number of personnel in each grade on active duty. Although this information is important for governmental budgeting, it is of limited value for personal financial planning.

An excellent description of the different forms of pay and benefits for which a service member may be eligible is contained in the Uniformed Services Almanac [Ref. 3] which is updated on an annual basis. However, the specific nature of this publication limits its use to individual cases.

A more general approach to military income and personal finances is provided by the Officer's Manual of Personal Finance and Insurance [Ref. 4]. It contains financial planning guides for retirement and survivorship, but does not attempt to quantify the present worth of certain benefits to the military member.

A publication which provides many statistics about the military community concerning income levels, geographic distribution, military retail systems, age and dependency distributions, etc. is the Military Market Facts Book, 1974 [Ref. 5]. However, it is of value more as a commercial guide than a personal finance reference.

C. OBJECTIVES

Since military compensation is composed not only of a "salary" but also other payments and benefits as well, the problem of placing a monetary value on the compensation is twofold. First, all the different forms of compensation must be identified and understood. And second, some monetary worth must be associated with each of these forms. The purpose of this study then is to attempt to explain the forms of pay and benefits, and then by making certain necessary assumptions, to evaluate the monetary value of total military compensation on the officer level to aid in the making of personal financial decisions.

D. METHODOLOGY

The basis for assigning a monetary value to the different forms of military compensation in this study is the cost that the member would incur in providing a like benefit or allowance from the civilian market.

Since many of the benefits and payments made to military members at the present time depend on such things as marital status, family size, whether the member serves to retirement, etc., many assumptions regarding these variables had to be made throughout the study. Most

of these assumptions are mentioned in conjunction with the analysis of the specific form of compensation. As a word of caution, however, no figures in this study are valid without noting what assumptions have been made concerning them.

It should also be noted that inflation has been ignored throughout this study in order to arrive at a workable solution. Thus there has been no attempt to equate "worth" and future "purchasing power."

II. IDENTIFICATION AND ANALYSIS OF TYPES OF COMPENSATION

There are various ways by which a military member is compensated, but for the sake of analysis they may be grouped under four broad categories: cash payments, equivalent insurance coverages, cash savings, and retirement contribution. Each of these categories and the specific forms of compensation within them are described and analyzed below.

A. CASH PAYMENTS

At the present time, every married officer receives at least three forms of compensation in cash: basic pay, quarters allowance (or quarters-in-kind for which he surrenders the cash allowance), and subsistence allowance. There are other cash payments for particular officers in specific situations (e.g., hazardous duty pay for aviators), but these are not universal and are thus not considered in this study. Any officer so affected would merely add the appropriate amount to the composite figures.

Currently pay raises are applied as a percentage of basic pay alone, with increases in subsistence allowance and/or quarters allowance requiring separate legislation. Under a pending proposal, future pay raises would be applied to all three forms of cash payments by a percentage amount equal to that awarded to Civil Service Employees.

1. Basic Pay

The only element of compensation for military personnel which is received in cash that is subject to Federal (and state and local, as applicable) taxation is basic pay. Two factors determine the rate of basic pay: pay grade and years of service. For the officer assumed to have been promoted in accordance with the FY-74 promotion plan [Ref. 6], the present basic pay scale is presented in Table I. [1]

2. Non-Taxable Cash Allowances

Of the various elements in the total compensation of military personnel, two which are received in cash on a daily basis but are non-taxable are subsistence allowance and quarters allowance. The allowance for subsistence (BAS) is a constant amount of $47.88 per month for all officers. The amount received for monthly quarters allowance (BAQ) varies depending on whether the status of the officer is with or without dependents and also the grade of the officer. For the purposes of this study, it is assumed that the officer does have dependents. The amounts received for non-taxable cash allowances as a function of rank are tabulated in Table II, and the composite value of compensation received in the form of cash is contained in Table III.

[1] All annual compensation figures are rounded-off to the nearest whole dollar.

TABLE I

OFFICER BASIC PAY SCALE

YEARS ACTIVE DUTY	GRADE	MONTHLY BASE PAY	ANNUAL BASE PAY
<1	0-1	$ 600.09	$ 7,201
1	"	"	"
2	0-2	756.60	9,079
3	"	908.70	10,904
4	0-3	1,050.30	12,604
5	"	"	"
6	"	1,100.40	13,205
7	"	"	"
8	"	1,140.00	13,680
9	0-4	1,180.80	14,170
10	"	1,260.90	15,131
11	"	"	"
12	"	1,332.30	15,988
13	"	"	"
14	"	1,393.20	16,718
15	"	"	"
16	0-5	1,584.60	19,015
17	"	"	"
18	"	1,675.80	20,110
19	"	"	"
20	"	1,725.90	20,711

TABLE II

NON-TAXABLE CASH ALLOWANCES

GRADE	QUARTERS ALLOWANCE (B.A.Q.)	SUBSISTENCE ALLOWANCE (B.A.S.)	MONTHLY TOTAL	ANNUAL TOTAL
0-1	$141.60	$47.88	$189.48	$2,274
0-2	175.80	"	223.68	2,684
0-3	195.60	"	243.48	2,922
0-4	215.40	"	263.28	3,159
0-5	238.80	"	286.68	3,440

TABLE III

COMPOSITE ANNUAL VALUE OF CASH PAYMENTS

YEARS ACTIVE DUTY	GRADE	BASE PAY	NON-TAXABLE ALLOWANCES	TOTAL CASH PAYMENTS
<1	0-1	$ 7,201	$2,274	$ 9,475
1	"	"	"	"
2	0-2	9,079	2,684	11,763
3	"	10,904	"	13,588
4	0-3	12,604	2,922	15,526
5	"	"	"	"
6	"	13,205	"	16,127
7	"	"	"	"
8	"	13,680	"	16,602
9	0-4	14,170	3,159	17,329
10	"	15,131	"	18,290
11	"	"	"	"
12	"	15,988	"	19,147
13	"	"	"	"
14	"	16,718	"	19,877
15	"	"	"	"
16	0-5	19,015	3,440	22,455
17	"	"	"	"
18	"	20,110	"	23,550
19	"	"	"	"
20	"	20,711	"	24,151

B. EQUIVALENT INSURANCE COVERAGE

Several benefits which are provided to the serviceman by the government could be provided by private or group insurance. This is not to imply that the member would purchase the same insurance coverage on his own. The worth of the benefits is, nevertheless, the amount he would have to pay to obtain them himself. They are therefore a form of compensation. Following is a summary of these insurance benefits.

1. Lump Sum Coverages

Lump sum coverages are benefits which provide for an immediate payment of cash to designated survivors in the event of a serviceman's death. These include Servicemen's Group Life Insurance, the death gratuity, and an interment (burial) allowance.

a. Servicemen's Group Life Insurance

Servicemen's Group Life Insurance (SGLI) was amended in May 1974 to provide $20,000 coverage to active duty personnel unless the member declines the coverage in writing, or requests a lesser amount of $15,000, $10,000 or $5,000. Premiums, which currently amount to $3.40 for the $20,000 coverage, are deducted directly from service pay. This insurance continues in force until 120 days after separation from active duty; and up to this time, the member has the right to convert to an individual commercial permanent policy without medical examination.

For the purposes of this study, it is assumed that the member has elected the full $20,000 coverage, and thus the $3.40 deduction will be accounted for in a comparable policy.

b. Death Gratuity

In the event of death while a serviceman is on active duty (or if a member dies of a service-connected cause within 120 days after his discharge), the government will make a lump sum payment of at least $800 to the surviving spouse or children (or other designated person should there be no spouse or children). The actual amount to be paid is computed as six times monthly basic pay, not to exceed $3,000. This means that the death gratuity is equivalent to $3,000 insurance coverage for any officer, regardless of grade, since any officer's survivors would receive the maximum allowable.

c. Interment Allowance

If a serviceman dies while on active duty, the government will provide for care and disposition of the remains. Services of preparation at the place of death include pickup, embalming and preservation, casket, and transportation to the city designated by the next of kin. These services are either contracted for by military authorities, or private arrangements can be made by the next of kin with reimbursement limited to those items normally obtained by the military under contract and in the amount for which the government could have obtained the services. If there is no contractor in the vicinity of where death occurs, reimbursement for the above services is limited to a maximum of $500.

In addition, an allowance is provided for the cost of burial of the remains in the maximum amounts of $625 for burial in a civilian cemetery and $375 for interment in a national cemetery.

Thus, the total payment received by survivors for burial services of the deceased member would be approximately $1,000. The burial allowance can therefore be considered equivalent to $1,000 insurance coverage.

d. Combined Lump Sum Benefits

When the benefits of Servicemen's Group Life Insurance (SGLI), death gratuity, and burial allowance are combined and considered as life insurance protection, the total amount is equivalent to $24,000 coverage. The value of these benefits is thus the cost required to personally acquire equivalent coverage (less the premium already paid for SGLI). Since the cost of obtaining life insurance varies as a function of age, it is assumed for this study that an officer is commissioned at age twenty-two and thus could retire at forty-two years of age. Annual values for the lump sum benefits are provided in Table IV.[2]

2. Disability Coverage

If a service member becomes disabled while on active duty from a cause that is not due to his own misconduct or negligence, he may be either temporarily or permanently retired. The amount of disability retirement pay which he receives primarily depends upon the degree to which the disability keeps the member from performing his duties. Disability retirement is computed by multiplying the basic pay by the

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[2] Term insurance rates are from Founders Life Insurance Company courtesy of Financial Marketing Corporation, and are reproduced in Appendix A.

TABLE IV

VALUE OF LUMP SUM BENEFITS ($24,000 LEVEL TERM)

AGE	MONTHLY PREMIUM AND POLICY FEE	MONTHLY VALUE (PREMIUM-$3.40)	ANNUAL VALUE
22	$ 8.78	$5.38	$ 65
23	8.82	5.42	"
24	8.84	5.44	"
25	8.86	5.46	66
26	8.88	5.48	"
27	"	"	"
28	"	"	"
29	8.90	5.50	"
30	8.92	5.52	"
31	8.98	5.58	67
32	9.06	5.66	68
33	9.16	5.76	69
34	9.30	5.90	71
35	9.52	6.12	73
36	9.82	6.42	77
37	10.20	6.80	82
38	10.66	7.26	87
39	11.18	7.78	93
40	11.74	8.34	100
41	12.36	8.96	108
42	13.06	9.66	116

percentage of disability or by 0.025 times the number of years of active service, whichever is greater.

Members may also be placed on the Temporary Disability Retired List (TDRL), in which case the retired pay will not be less than 50% of base pay for the period of disability. Members may be carried on the TDRL for a maximum of five years.

For the purpose of this study, it is assumed that if the service member were disabled, he would be placed on the TDRL and receive 50% of base pay for the maximum five year period. The cost of coverage more extensive than this becomes prohibitive on an individual basis. The value of this disability income insurance is tabulated in Table V. The rates for the accident and health disability income insurance are reproduced in Appendix B (however, the company will not insure active duty military personnel for disability income insurance).

3. Dependency and Indemnity Compensation

The Dependency and Indemnity Compensation (DIC) is paid by the government to the survivors of military personnel who die while on active duty not as a result of personal misconduct or gross negligence. The rates of DIC are the same whether death occurs during or as a result of peacetime or wartime service, and depend on military paygrade and type of dependents to whom payable.

The DIC payments for widows of officers from paygrades 0-1 to 0-5 are presented in Table VI.

TABLE V

VALUE OF DISABILITY INCOME INSURANCE

AGE	GRADE	MONTHLY PAYMENT AT 50% BASE PAY ON TDRL	ANNUAL DISABILITY INSURANCE PREMIUMS
22	0-1	$300	$135
23	"	"	"
24	0-2	379	170
25	"	454	204
26	0-3	525	239
27	"	"	243
28	"	550	259
29	"	"	263
30	"	570	277
31	0-4	591	293
32	"	631	318
33	"	"	324
34	"	666	349
35	"	"	356
36	"	697	381
37	"	"	389
38	0-5	793	453
39	"	"	463
40	"	838	501
41	"	"	514
42	"	863	542

TABLE VI

DIC RATES FOR WIDOWS

PAY GRADE	MONTHLY PAYMENT
0-1	$232
0-2	240
0-3	257
0-4	272
0-5	299

The amount payable to the widow continues for her lifetime, except that it will cease in the event she remarries. The rate payable for a widow with one or more dependent children of the deceased member is increased by $22.00 per month for each child.

In the event of remarriage or death of the widow, DIC payments will be made to the children, until age 18, at the following rates: one child $92.00 per month; two children $133.00 per month; three children $172.00 per month; and $34.00 per month for each child in excess of three. Payments to children will be made in equal shares when there are more than one.

In order to place a comparable value on DIC, several assumptions had to be made. First, the number of dependent children of the military family had to be assumed. This was accomplished using figures presented in Table VII for the average number of dependent children in military families. [Ref. 5]

TABLE VII

AVERAGE NUMBER OF DEPENDENT CHILDREN
IN MILITARY FAMILIES

GRADE	NUMBER
0-1	0.3
0-2	0.6
0-3	1.7
0-4	2.5
0-5	2.7

Second, the number of years until the widow remarried (if in fact she did remarry) had to be estimated. The figure of ten years was chosen as an average number (although the median would probably be lower than this) to account for the long number of years that DIC would be paid for those who did not remarry.

For this study then, it was assumed that the widow and dependent children would receive DIC for ten years (payments to children after remarriage were ignored). A commuted value was then calculated from Appendix C, and the value of DIC established as the cost of equivalent insurance from Appendix A. These values are presented in Table VIII.

4. Medical/Dental Coverage

Active duty military personnel are entitled to full medical and dental care at the expense of the government. Medical care in uniformed services medical facilities is authorized for dependents of active duty personnel when the commander of the medical facility determines that space and facilities are available and the capabilities of the professional

TABLE VIII

VALUE OF DEPENDENCY AND INDEMNITY COMPENSATION (DIC)

SPONSOR'S AGE	SPONSOR'S GRADE	NUMBER OF CHILDREN	MONTHLY DIC	COMMUTED INSURANCE VALUE	INSURANCE COST
22	O-1	0	$232	$24,685	$108
23	"	"	"	"	"
24	O-2	"	240	25,536	112
25	"	1	262	27,877	121
26	O-3	"	279	29,686	129
27	"	"	"	"	"
28	"	2	301	32,026	138
29	"	"	"	"	"
30	"	"	"	"	139
31	O-4	"	316	33,622	146
32	"	"	"	"	148
33	"	"	"	"	149
34	"	3	338	35,963	161
35	"	"	"	"	165
36	"	"	"	"	171
37	"	"	"	"	178
38	O-5	"	365	38,836	200
39	"	"	"	"	210
40	"	"	"	"	221
41	"	2	343	36,495	219
42	"	"	"	"	232

staff are sufficient for that purpose. Otherwise, dependents' medical care is provided under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Dental services for dependents is limited to emergency dental or oral care and the taking of diagnostic X-rays.

When health benefits are provided for dependents in facilities of the uniformed services, there is no charge for outpatient care and a charge of $3.50 a day for inpatient care. Under CHAMPUS, for inpatient care the patient pays the first $25.00 of the hospital charges or $3.50 per day, whichever is greater. For outpatient care, there is an annual deductible of $50.00 per fiscal year if benefits are claimed for one eligible beneficiary or $100.00 if benefits are claimed for two or more eligible family members. After the deductible has been met, CHAMPUS will pay 80% of the reasonable charges for outpatient care.

The February 1970 Report of the President's Commission on an All-Volunteer Armed Force ("Gates Commission") [Ref. 7] stated that its study revealed that the Department of Defense incurs medical and dental costs amounting to about $400.00 per individual serviceman and dependent. However, this is not necessarily the value of medical coverage to the service member. This value would be the imputed cost of having to obtain hospital/major medical insurance. The difficulty arises in finding a program which is similar to, or as extensive as, the medical benefits provided to military personnel. (Conversely however, no

monetary penalty can be ascribed to the inconveniences and lack of concern that sometimes arise in uniformed services medical facilities).

For instance, a civilian program which is similar to CHAMPUS is Blue Cross in that the High Level Plan is also a $100.00-deductible, 80%-payment plan with comparable benefits. The monthly rate for a family plan (any number of dependents) is $45.45, or about $545.00 annually. However, this plan does not compare with the complete coverage at a uniformed services medical facility, nor does it provide dental care for the military member.

More extensive group/industrial health plans do exist, and representative monthly rates would be as follows: hospital/medical for the member $19.90; hospital/medical for dependents $37.80; and dental for the member $5.15. This represents an annual cost of about $754.00.[3]

5. Combined Value of Insurance Coverages

The composite values of the insurance-type benefits (lump sum benefits, disability income insurance, DIC, and medical coverage) are presented in Table IX.

C. CASH SAVINGS

There are basically two forms of military compensation which result directly in a cash savings: .income tax advantage and consumer benefits.

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[3]Representative rates courtesy of Ray M. Mann, Jr., New York Life Insurance Co., Monterey, Ca.

TABLE IX

ANNUAL VALUE OF INSURANCE-TYPE BENEFITS

AGE	GRADE	LUMP SUM BENEFITS	DISABILITY INSURANCE	DIC	MEDICAL	TOTAL
22	0-1	$ 65	$135	$108	$754	$1,062
23	"	"	"	"	"	"
24	0-2	"	170	112	"	1,101
25	"	66	204	121	"	1,145
26	0-3	"	239	129	"	1,188
27	"	"	243	"	"	1,192
28	"	"	259	138	"	1,217
29	"	"	263	"	"	1,221
30	"	"	277	139	"	1,236
31	0-4	67	293	146	"	1,260
32	"	68	318	148	"	1,288
33	"	69	324	149	"	1,296
34	"	71	349	161	"	1,335
35	"	73	356	165	"	1,348
36	"	77	381	171	"	1,383
37	"	82	389	178	"	1,403
38	0-5	87	453	200	"	1,494
39	"	93	463	210	"	1,520
40	"	100	501	221	"	1,576
41	"	108	514	219	"	1,595
42	"	116	542	232	"	1,644

1. Tax Advantage

The tax advantage is that portion of a member's compensation which is due to the fact that two forms of cash payment compensation (Quarters Allowance and Subsistence Allowance) are not subject to income taxation. The value of this savings is equal to the additional money the serviceman would have to receive to maintain the same take-home pay if these allowances were taxed.

For this study, income tax rates were determined from Schedule Y of the 1973 income tax tables using basic pay as the only taxable income and with a standard deduction of 15% (not to exceed $2000). The assumed number of exemptions was based on statistical data of the average number of children in a dependent status of active duty personnel (see Table VII). The resultant values of taxable income and tax rates are presented in Table X and that of the tax advantage in Table XI.

2. Consumer Benefits

An opportunity for cash savings is afforded to military members through the use of commissaries and exchanges as compared to making similar purchases in the civilian market. Although the savings realized by purchases made in commissary and exchange facilities are difficult to estimate, price levels in commissaries run from 30% to 36% lower than civilian supermarkets and in exchanges average 15% lower than in civilian department/variety stores [Ref. 5].

TABLE X

TAXABLE INCOME AND TAX RATES

YEARS ACTIVE DUTY	GRADE	BASE PAY	NUMBER OF EXEMPTIONS	TAXABLE INCOME INCLUDING DEDUCTION AND EXEMPTIONS	TAX RATE
<1	0-1	$ 7,201	2	$ 4,621	19%
1	"	"	"	"	"
2	0-2	9,079	"	6,217	"
3	"	10,904	3	7,018	"
4	0-3	12,604	"	8,463	22
5	"	"	"	"	"
6	"	13,205	4	8,224	"
7	"	"	"	"	"
8	"	13,680	"	8,680	"
9	0-4	14,170	"	9,170	"
10	"	15,131	"	10,131	"
11	"	"	"	"	"
12	"	15,988	5	10,238	"
13	"	"	"	"	"
14	"	16,718	"	10,968	"
15	"	"	"	"	"
16	0-5	19,015	"	13,265	25
17	"	"	"	"	"
18	"	20,110	"	14,360	"
19	"	"	4	15,110	"
20	"	20,711	"	15,711	"

TABLE XI

ANNUAL VALUE OF TAX ADVANTAGE

YEARS ACTIVE DUTY	GRADE	TAX RATE	NON-TAXABLE PAYMENTS	TAX ADVANTAGE
<1-1	0-1	19%	$2,274	$432
2-3	0-2	"	2,684	510
4-8	0-3	22	2,922	643
9-15	0-4	"	3,159	695
16-20	0-5	25	3,440	860

Using the average distribution of personal consumption expenditures in 1973, the amount spent on food was 18.6% of total income, and percent of income spent on clothing/household operations was 24.0% [Ref. 8]. Taking into account the price reductions above, the average value of commissary privileges is about 5.6% (18.6% X 0.30) of income, while the value of exchange privileges is about 3.6% (24% X 0.15) of income. More specific values of these percentage figures of consumer savings have been estimated by the authors of Officer's Manual of Personal Finance [Ref. 4], and are presented in Table XII as a function of family size.

For this study, the assumption of family size was based on statistical data of the average number of dependent children in a military family (see Table VII). The resulting cash values of consumer privileges are presented in Table XIII. If these facilities are not utilized by the member by choice, the benefits are foregone but nevertheless do exist and are thus a form of compensation.

TABLE XII

PERCENTAGE VALUE OF CONSUMER PRIVILEGES
(PERCENTAGE OF BEFORE TAX INCOME)

FAMILY SIZE	COMMISSARY PRIVILEGE	EXCHANGE PRIVILEGE	TOTAL
1	2.1%	3.2%	5.3%
2	4.1	3.3	7.4
3	4.7	4.0	8.7
4	5.4	4.2	9.6
5	5.8	4.4	10.2

3. Combined Cash Savings

The total annual cash savings provided by the tax advantage and consumer benefits are presented in Table XIV.

D. RETIREMENT CONTRIBUTION

Perhaps the form of military compensation which has the largest personal worth is the retirement contribution. But being a non-vested system, this benefit is of value only to those members who remain on active duty for the required number of years to be eligible for retirement. The present retirement system is thus an incentive to remain on active duty since it insures a monthly income and security for those who choose a career. Provisions are also available to provide income for the retired member's survivor under the Survivor Benefit Plan.

After a minimum of twenty years active service, at least ten of which are commissioned service for commissioned officers, officers may retire and receive retired pay computed as follows: 50% of the

TABLE XIII

ANNUAL CASH SAVINGS FROM CONSUMER BENEFITS

YEARS ACTIVE DUTY	GRADE	NUMBER OF CHILDREN	BASE PAY	PERCENT INDEX OF SAVINGS	CASH SAVINGS
<1	0-1	0	$ 7,201	7.4%	$ 533
1	"	"	"	"	"
2	0-2	"	9,079	"	672
3	"	1	10,904	8.7	949
4	0-3	"	12,604	"	1,097
5	"	"	"	"	"
6	"	2	13,205	9.6	1,268
7	"	"	"	"	"
8	"	"	13,680	"	1,313
9	0-4	"	14,170	"	1,360
10	"	"	15,131	"	1,453
11	"	"	"	"	"
12	"	3	15,988	10.2	1,631
13	"	"	"	"	"
14	"	"	16,718	"	1,705
15	"	"	"	"	"
16	0-5	"	19,015	"	1,940
17	"	"	"	"	"
18	"	"	20,110	"	2,051
19	"	2	"	9.6	1,931
20	"	"	20,711	"	1,988

TABLE XIV

ANNUAL VALUE OF CASH SAVING BENEFITS

YEARS ACTIVE DUTY	GRADE	TAX ADVANTAGE	CONSUMER BENEFITS	CASH SAVINGS
<1	0-1	$432	$ 533	$ 965
1	"	"	"	"
2	0-2	510	672	1,182
3	"	"	949	1,459
4	0-3	643	1,097	1,740
5	"	"	"	"
6	"	"	1,268	1,911
7	"	"	"	"
8	"	"	1,313	1,956
9	0-4	695	1,360	2,055
10	"	"	1,453	2,148
11	"	"	"	"
12	"	"	1,631	2,326
13	"	"	"	"
14	"	"	1,705	2,400
15	"	"	"	"
16	0-5	860	1,940	2,800
17	"	"	"	"
18	"	"	2,051	2,911
19	"	"	1,931	2,791
20	"	"	1,988	2,848

monthly basic pay after twenty years active service, and for each year of service after twenty years the amount is increased by 2-1/2%.

For the purposes of this study, if an officer remains on active duty until eligible for retirement, it is assumed that he was commissioned at the age of twenty-two, and would remain on active duty for twenty years only, retiring at the age of forty-two at the grade of 0-5. Using the 50% rate of base pay, the retirement pay would be $863 per month, or $10,355 annually. Neglecting inflation, with a life expectancy of thirty years [Ref. 8], the cumulative figure received by the retired officer would amount to $310,662. Discounting the $10,355 thirty-year annuity at a 5% rate,[4] the present value of the cumulative amount at age forty-two would be $159,182.

This indicates that for an officer to receive a thirty-year annual annuity of $10,355 from the point of retirement, he would have to have accumulated a sum of $159,182. Again assuming an interest rate of 5% (compounded annually), the required annual deposits over the period of active duty of twenty years to accumulate that sum would be $4,814 (see Tables XV and XVI). Therefore, the annual value of the retirement benefit to those who remain on active duty for twenty years is $4,814.

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[4]Interest rates are currently much higher than 5%, but use of a higher rate is indefensible when ignoring inflation at the same time.

TABLE XV

RETIREMENT CONTRIBUTIONS

YEARS OF ACTIVE DUTY	AGE	REQUIRED CONTRIBUTION	INTEREST EARNINGS	BALANCE
<1	22	——	——	——
1	23	$4,814	$ 0	$ 4,814
2	24	"	241	9,869
3	25	"	493	15,176
4	26	"	759	20,749
5	27	"	1,037	26,600
6	28	"	1,330	32,744
7	29	"	1,637	39,195
8	30	"	1,960	45,969
9	31	"	2,298	53,081
10	32	"	2,654	60,549
11	33	"	3,027	68,390
12	34	"	3,420	76,624
13	35	"	3,831	85,269
14	36	"	4,263	94,346
15	37	"	4,717	103,877
16	38	"	5,194	113,885
17	39	"	5,694	124,393
18	40	"	6,220	135,427
19	41	"	6,771	147,012
20	42	"	7,356	159,182

TABLE XVI

RETIREMENT ANNUITY

YEAR OF RETIREMENT	AGE	RETIREMENT ANNUITY	INTEREST EARNINGS	BALANCE
1	43	$10,355	$7,954	$156,781
2	44	"	7,839	154,265
3	45	"	7,713	151,623
4	46	"	7,581	148,849
5	47	"	7,442	145,936
6	48	"	7,297	142,878
7	49	"	7,144	139,667
8	50	"	6,983	136,295
9	51	"	6,815	132,755
10	52	"	6,638	129,038
11	53	"	6,452	125,135
12	54	"	6,257	121,037
13	55	"	6,052	116,734
14	56	"	5,837	112,216
15	57	"	5,611	107,471
16	58	"	5,374	102,490
17	59	"	5,124	97,259
18	60	"	4,863	91,767
19	61	"	4,588	86,000
20	62	"	4,300	79,945
21	63	"	3,997	73,587

TABLE XVI (cont.)

YEAR OF RETIREMENT	AGE	RETIREMENT ANNUITY	INTEREST EARNINGS	BALANCE
22	64	$10,355	$3,679	$ 66,911
23	65	"	3,346	59,902
24	66	"	2,995	52,542
25	67	"	2,627	44,814
26	68	"	2,241	36,700
27	69	"	1,835	28,180
28	70	"	1,409	19,234
29	71	"	962	9,841
30	72	"	514	0

E. VALUE OF COMBINED COMPENSATIONS

The total personal value of military compensations (cash payments, equivalent insurance coverages, cash savings, and retirement contribution) is presented in Table XVII.

TABLE XVII

TOTAL PERSONAL VALUE OF MILITARY COMPENSATION

YEARS ACTIVE DUTY	GRADE	CASH PAYMENTS	INSURANCE COVERAGES	CASH SAVINGS	RETIREMENT CONTRIBUTION	TOTAL
<1	0-1	$ 9,475	$1,062	$ 965	$4,814	$16,316
1	"	"	"	"	"	"
2	0-2	11,763	1,101	1,182	"	18,860
3	"	13,588	1,145	1,459	"	21,006
4	0-3	15,526	1,188	1,740	"	23,268
5	"	"	1,192	"	"	23,272
6	"	16,127	1,217	1,911	"	24,069
7	"	"	1,221	"	"	24,073
8	"	16,602	1,236	1,956	"	24,608
9	0-4	17,329	1,260	2,055	"	25,458
10	"	18,290	1,288	2,148	"	26,540
11	"	"	1,296	"	"	26,548
12	"	19,147	1,335	2,326	"	27,622
13	"	"	1,348	"	"	27,635
14	"	19,877	1,383	2,400	"	28,474
15	"	"	1,403	"	"	28,494
16	0-5	22,455	1,494	2,800	"	31,563
17	"	"	1,520	"	"	31,589
18	"	23,550	1,576	2,911	"	32,851
19	"	"	1,595	2,791	"	32,750
20	"	24,151	1,644	2,848	"	33,457

III. CONCLUSIONS

The following conclusions can be drawn from this study:

1. In general, the value of total military compensation is significantly larger than the value of cash payments received, with basic pay ranging from 44% (an officer with less than one year service) to about 62% (an officer of grade 0-5 with twenty years service) of total compensation.

2. In addition to basic pay, the most valuable form of military compensation is the retirement contribution. An officer who retires at age 42 in grade 0-5 after 20 years service can expect to receive a total of $310,662 (neglecting increases in the Consumer's Price Index). Using a 5% discount rate, this would require an annual savings program of $4,814 for the 20 years of active service. However, this benefit is of value only to those who remain on active duty until eligible for retirement.

3. Besides disability and medical coverages, the government provides insurance-type benefits which are equivalent to level term insurance of values between $48,600 (an officer with less than one year service) and $60,400 (an officer of grade 0-5 with 20 years service).

APPENDIX A

TERM LIFE INSURANCE RATES

The following rates for one year renewable and convertible level term life insurance from Founders Life Insurance Company were used in this study. Additional policy fees are: annual $10.00; monthly $ .88.

AGE	ANNUAL PREMIUMS PER $1,000	AGE	ANNUAL PREMIUMS PER $1,000
22	$3.95	33	$4.14
23	3.97	34	4.21
24	3.98	35	4.32
25	3.99	36	4.47
26	4.00	37	4.66
27	4.00	38	4.89
28	4.00	39	5.15
29	4.01	40	5.43
30	4.02	41	5.74
31	4.05	42	6.09
32	4.09		

APPENDIX B

DISABILITY INCOME INSURANCE RATES

The following rates for accident and health disability income insurance from Founders Life Insurance Company were used in this study:

ISSUE AGE	ANNUAL PREMIUMS PER $10 MONTHLY BENEFIT (5 YEAR BENEFIT PERIOD)
22-25	$4.49
26	4.56
27	4.63
28	4.70
29	4.78
30	4.86
31	4.95
32	5.04
33	5.14
34	5.24
35	5.35
36	5.46
37	5.58
38	5.71
39	5.84
40	5.98
41	6.13
42	6.28

APPENDIX C

TABLE OF COMMUTED VALUES

For each $10,000 of monthly income payable for the number of years from the insured's death to the expiration date, the commuted value is the equivalent life insurance coverage that would be required to provide the monthly income. This table is reproduced from Seaboard Life Insurance Company of America.

MONTHLY PAYMENT	NUMBER OF YEARS OF PAYMENT	COMMUTED VALUE	MONTHLY PAYMENT	NUMBER OF YEARS OF PAYMENT	COMMUTED VALUE
$10	1	$ 119	$10	11	$1,157
"	2	234	"	12	1,248
"	3	347	"	13	1,336
"	4	458	"	14	1,422
"	5	565	"	15	1,506
"	6	670	"	16	1,588
"	7	772	"	17	1,668
"	8	872	"	18	1,746
"	9	969	"	19	1,822
"	10	1,064	"	20	1,896

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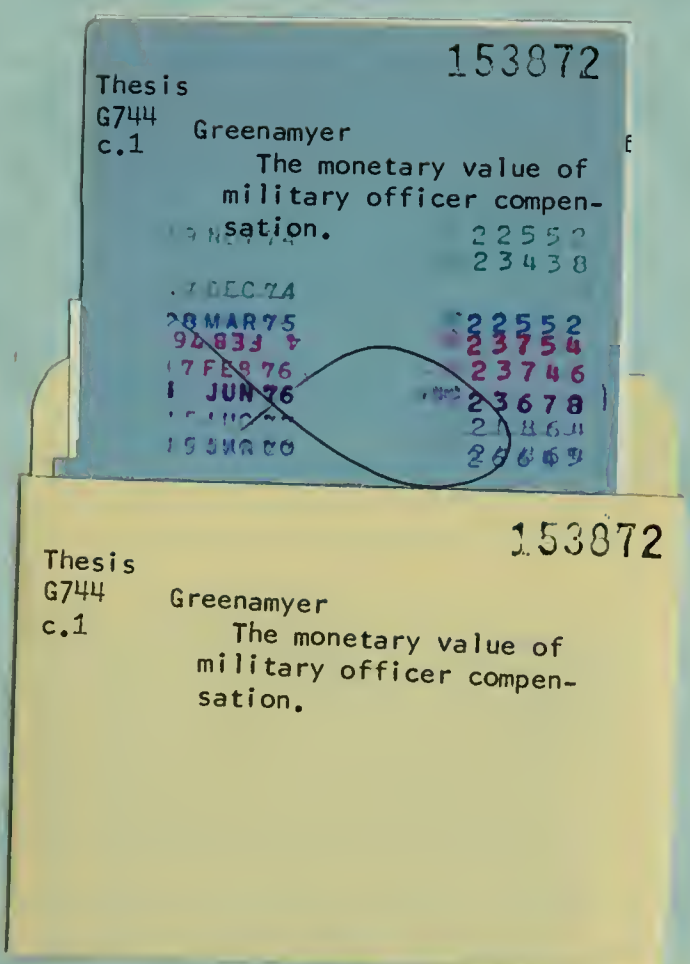
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